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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/01849

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/155 A61P3/04 A61P3/10 A61P37/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

MEDLINE, CHEM ABS Data, EMBASE, EPO-Internal, WPI Data, PAJ, BIOSIS, CANCERLIT, AIDSLINE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SCHEEN A.J. ET AL: "About some non-conventional uses of metformin !. A PROPOS DE QUELQUES UTILISATIONS NON CONVENTIONNELLES DE LA METFORMINE." MEDECINE ET HYGIENE, (1997) 55/2173 (1492-1494). XP000921039 figure 1 page 1492, column 2, paragraph 2 -page 1493, column 1, paragraph 4 --- -/-	1-11

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "d" document member of the same patent family

Date of the actual completion of the international search

28 June 2000

Date of mailing of the international search report

20/07/2000

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/01849

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHEMICAL ABSTRACTS, vol. 129, no. 17, 26 October 1998 (1998-10-26) Columbus, Ohio, US; abstract no. 211523, LUGARI, R. ET AL: "Effects of metformin on intestinal and pancreatic endocrine secretion in type 2 (non-insulin-dependent) diabetes" XP000920928 abstract the whole document & FRONT. DIABETES (1998), 14(MOLECULAR AND CELL BIOLOGY OF TYPE 2 DIABETES AND ITS COMPLICATIONS), 161-163 ,	1-9,11
X	--- SCHEEN A.J.: "How to treat... A non - obese patient with diabetes mellitus type 2!. COMMENT JE TRAITE... UN PATIENT DIABETIQUE DE TYPE 2 NON OBESE." REVUE MEDICALE DE LIEGE, (1994) 49/3 (121-122). , XP000921038 page 122, paragraph 2 - paragraph 3 ---	1-9,11
X	JACKSON R A ET AL: "Mechanism of metformin action in non-insulin-dependent diabetes" DIABETES, (1987 MAY) 36 (5) 632-40. , XP000921037 abstract table 1 --- -/--	1-9,11

INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>PAOLISSO G (REPRINT) ET AL: "Effect of metformin on food intake in obese subjects"</p> <p>EUROPEAN JOURNAL OF CLINICAL INVESTIGATION, (JUN 1998) VOL. 28, NO. 6, PP 441-446. PUBLISHER: BLACKWELL SCIENCE LTD, P O BOX 88, OSNEY MEAD, OXFORD OX2 ONE, OXON, ENGLAND. ISSN: 0014-2972., vol. 28, no. 6, June 1998 (1998-06), pages 441-446, XP000218679</p> <p>UNIV NAPLES 2, DEPT GERIATR MED & METAB DIS, SERV ASTANTERIA MED, PIAZZA MIRAGLIA 2, I-80138 NAPLES, ITALY (Reprint);UNIV NAPLES 2, INST ENDOCRINOL, I-80138 NAPLES, ITALY</p> <p>abstract</p> <p>page 441, column 1, paragraph 1 -column 2, paragraph 2</p> <p>page 442, column 1, paragraph 3</p> <p>page 445, column 1, paragraph 2 - paragraph 3</p> <p>page 445, column 1, paragraph 5 -column 2, paragraph 2</p> <p>page 446, column 1, paragraph 2 - paragraph 3</p>	1,2,5-10
X	<p>ROURU J ET AL: "Anorectic effect of metformin in obese Zucker rats: lack of evidence for the involvement of neuropeptide Y."</p> <p>EUROPEAN JOURNAL OF PHARMACOLOGY, (1995 JAN 24) 273 (1-2) 99-106. , XP000920931</p> <p>abstract</p> <p>figure 4</p> <p>page 104, column 2, paragraph 3 - paragraph 4</p> <p>page 105, column 1, paragraph 2 - paragraph 3</p> <p>page 106, column 1, paragraph 2</p>	1,2,5,6
X	<p>REYNOLDS J.: "Martindale - The Extra Pharmacopeia. Edition 31"</p> <p>1997, ROYAL PHARMACEUTICAL SOCIETY, LONDON, GB XP002141210 224540</p> <p>page 357, column 2, paragraph 2 -column 3</p> <p>---</p> <p>-/--</p>	8,9

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/01849

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 57634 A (SMITH STEPHEN ALISTAIR ;SMITHKLINE BEECHAM PLC (GB)) 23 December 1998 (1998-12-23) abstract page 1, line 1 - line 8 page 1, line 34 -page 2, line 25 page 4, line 10 - line 17 page 6, line 12 - line 32 claims 1,2,14,15,17,20,21	1-9
P,X	STEFANOVIC V ET AL: "Reversal of increased lymphocyte PC-1 activity in patients with type 2 diabetes treated with metformin." DIABETES METAB RES REV, (1999 NOV-DEC) 15 (6) 400-4. XP000921051 abstract page 401, column 1, paragraph 4 -column 2, paragraph 1 page 402, column 2, paragraph 4 table 4 page 404, column 1, paragraph 3	1,8
P,X	DE 299 09 210 U (PROBIODRUG GES FUER ARZNEIMITT) 9 September 1999 (1999-09-09) page 1, paragraph 1 - paragraph 3 page 2, paragraph 1 - paragraph 2 page 4, paragraph 2 - paragraph 4 page 9, paragraph 3 -page 10, paragraph 2 page 11; table 1	1,2,4,8, 9,11
A	TANAKA SUMIKO; MURAKAMI TAKANORI; HORIKAWA HIROSHI; SUGIURA MASAKI; KAWASHIMA KEISUKE; SUGITA TAKAHISA : "Suppression of arthritis by the inhibitors of dipeptidyl peptidase IV." INTERNATIONAL JOURNAL OF IMMUNOPHARMACOLOGY, vol. 19, no. 1, 1997, pages 15-24, XP000921050 abstract page 16, column 1, paragraph 1 - paragraph 2 page 20, column 1, paragraph 1 page 22, column 2, paragraph 2 - paragraph 3	1,3
A	WO 98 19998 A (CIBA GEIGY AG ;VILLHAUER EDWIN BERNARD (US)) 14 May 1998 (1998-05-14) abstract page 1, paragraph 2 page 18, paragraph 3 page 19, paragraph 2 -page 20, paragraph 1	1-11

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/01849

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HOLST JENS J; DEACON CAROLYN F : "Inhibition of the activity of dipeptidyl-peptidase IV as a treatment for type 2 diabetes." DIABETES vol. 47, no. 11, November 1998 (1998-11), pages 1663-1670, XP000853619 abstract page 1663, column 2, paragraph 1 page 1664, column 2, paragraph 2 -page 1665, column 2, paragraph 2 page 1666, column 1, paragraph 5 -column 2, paragraph 2 page 1667, column 1, paragraph 2 -column 2, paragraph 1 page 1667, column 2, paragraph 3 page 1668, column 1, paragraph 2 -----</p>	1-11

INTERNATIONAL SEARCH REPORT

International Application No. PCT/EP 00 01849

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2 .

Present claims 1-8 relate to a use and method, defined by reference to the parameter "to inhibit the enzyme dipeptidyl peptidase IV". Moreover, claims 2,4-7 relate to the parameter "to regulate the concentration of hormones and neuropeptides which are inactivated by the enzyme dipeptidyl peptidase IV", claim 3 relates to a use defined by reference to the parameter "to regulate the immunity functions modulated by CD26", claims 4,6,7,9-11 relate to the parameter "regulation of the concentration of GLP-I" and claims 5-7 relate to the parameter "regulation of the concentration of peptide YY and neuropeptide Y". Since the pharmacological action of this compound is not well-defined, the use of these parameters in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameters the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the search has been restricted to the diseases specified in claims 10 and 11, namely obesity in non-diabetic subjects and diabetes in slim or normoweight subjects, with due regard to the general idea underlying the application.

Claims searched partially: 1-11.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/01849

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9857634 A	23-12-1998	AU 8539398 A EP 0996444 A NO 996266 A	04-01-1999 03-05-2000 17-12-1999
DE 29909210 U	09-09-1999	DE 19823831 A AU 4370999 A DE 29909208 U DE 29909211 U WO 9961431 A	02-12-1999 13-12-1999 09-09-1999 23-09-1999 02-12-1999
WO 9819998 A	14-05-1998	AU 5318498 A BR 9714130 A CN 1236361 A CZ 9901615 A EP 0937040 A NO 992028 A PL 332777 A	29-05-1998 29-02-2000 24-11-1999 11-08-1999 25-08-1999 28-04-1999 11-10-1999